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U.S. Government & International Response to the Chornobyl Catastrophe

I would like to open by thanking the Congressional Ukrainian Caucus on behalf of Tom Adams, the Coordinator of Assistance to Europe and Eurasia, for convening this meeting on the important 20th anniversary of the Chornobyl nuclear accident. As you have heard from previous speakers, the Chornobyl meltdown and its broader social and environmental effects have become a central focus of U.S. assistance efforts in Ukraine and in Belarus. The State Department's Office of the Assistance Coordinator for Europe and Eurasia has had a key role, working with the experts in implementing agencies, in channeling U.S. taxpayers' support, through the annual appropriations under the FREEDOM Support Act, to these relief and assistance efforts. What follows is a brief summary of the U.S. government's Chornobyl-related assistance.

Scope and Human Impact of the Disaster

Twenty years ago, about 8 tons of radioactive fuel were thrown into the atmosphere for ten days. The April 26, 1986 disaster in Chornobyl had a radioactive intensity equivalent to several hundred Hiroshima A-bombs. The 2,300 towns and villages located within the boundaries of a 50,000 sq. km. radioactive contaminated area included 3.2 million people, more than 1 million of whom are or were children. Contamination of soils, rivers and lakes and the Kiev reservoir led to derivative contamination of the food and water supply. The accident led to substantial social, health and economic consequences that continue to this day.

International Assistance

International response, and the U.S. response in particular, to the Chornobyl disaster has been strong. In December 1995, in Ottawa, the G-7 countries, the European Commission, and Ukraine signed an MOU on the closure of the Chornobyl nuclear power plant. Since 1995, the MOU participants have worked together to mobilize about \$1 billion in loans from international financial institutions to increase the stability and reliability of Ukraine's energy sector. In addition to the loan funds, the G-7 countries and other donors have provided about \$1.3 billion in grant funds for Chornobyl site safety projects, for decommissioning facilities, and to repair the Chornobyl sarcophagus. The 1995 MOU identified four priority areas for cooperation – power sector restructuring, energy investments, nuclear safety, and social impacts. The highlights of this cooperation have included the following:

Power Sector Restructuring: The 1995 MOU acknowledged that the Ukrainian power sector required major restructuring if it was to meet the needs of the Ukrainian people and economy for safe, efficient, and environmentally-responsible energy supply. Through technical assistance and project and structural loans, international donors and lenders have helped Ukraine establish an electricity market system, create a professional energy regulatory commission, develop least-cost plans for the electrical sector, assess options for the future of the coal and nuclear industries, form partnerships with western utility companies, and carry out other activities. The legal basis for electricity market reform was created through the adoption of the Electricity Law in 1997. Improved energy sector performance attracted strategic investors who improved utility operations and made contributions to Ukraine's state budget and the stable functioning of the national economy. The major achievements in the power sector restructuring include:

- An increase in cash collections from 6 percent to over 90 percent due to barter elimination, establishment of a transit account, and the Cabinet of Ministers resolution authorizing non-payer cutoffs;
- Approval of a new tariff formula which allowed newly privatized energy companies to cover their operating costs and make a profit, including return on investment;
- A more independent, professional and transparent National Energy Regulatory Commission providing for stable functioning of the Wholesale Electricity Market.
- The Cabinet of Ministers approval of the Wholesale Electricity Market concept providing for the sale of electricity through bilateral contracts and a spot market.

Specific donors assistance under the 1995 Chernobyl MOU included:

- The European Union, which performed several technical assistance projects (with TACIS funds) and provided grants (for Fuel Gap Projects) for the power sector;
- France, which funded a technical assistance project for power distribution companies in western Ukraine;
- The World Bank and EBRD, which actively participated in reforming Ukraine's power sector through a number of consulting projects and loans; and
- The U.S., which through USAID provided significant assistance for power sector reform, regulatory development and privatization and energy efficiency programs.

Energy investments: In the area of energy investments, the G-7 countries have worked with Ukraine and international lenders to mobilize funds for a wide range of concrete investment projects that would be cost-effective in a restructured electricity market:

- Grants for investment plans, feasibility assessments, and project preparation;
- Loans from international lenders for projects in demand-side energy efficiency and district heating upgrades, rehabilitation of thermal-fired power plants, rehabilitation of hydroelectric plants, and energy efficiency; and
- Approximately \$1.00 billion in loans from EBRD, IBRD, and Germany for thermal power plants, hydropower plant rehabilitation, district heating plants upgrades, industrial energy efficiency, and some other coal and gas related projects.

Nuclear safety: To promote nuclear safety,

- G-7 Countries have provided a total of approximately \$1.60 billion in nuclear safety assistance to Ukraine to:
 - Enhance operational safety,
 - Improve technical safety and capabilities,
 - Upgrade infrastructure,
 - Enhance regulatory oversight,
 - Address significant nuclear safety concerns at Ukraine's nuclear power plants,
 - Support nuclear aspects of economic development and larger policy goals,
 - Improve nuclear emergency planning and response capabilities, and
 - Develop nuclear safety technical and management expertise at government, industry and support organizations for a self-sustaining nuclear safety improvement program.
- Out of the \$1.60 billion assistance to Ukraine, approximately \$1.3 billion is for the Chernobyl Nuclear Power Plant for:
 - Stabilization and reconstruction of Chernobyl Shelter,
 - Pre-decommissioning and waste management facilities, and
 - Decommissioning plans, safety analysis, safety and equipment upgrades.
- The donors' support for nuclear safety in Ukraine has resulted in significantly improved nuclear safety of the Soviet-designed reactors to include safe operations, an increased capacity factor, and an independent and effective nuclear regulator.

Social impacts: In the MOU on Chernobyl closure, the G-7 and EU recognized that the closure would adversely affect the surrounding region and agreed to prepare, in cooperation with Ukraine, a Social Impacts Action Plan, which was completed in 1997. While the G-7 and the European Commission can help mitigate the social costs associated with this transition period, ultimately the responsibility lies with Ukraine to take next steps to facilitate worker retraining, diversify the regional economy, and improve the local tax base in order to maintain an appropriate level of social services. The donors have provided approximately \$35 million to establish several programs to mitigate the social and economic impact of Chernobyl closure. These include:

- The Social Impact Mitigation Plan projects providing and promoting:
 - human resources training and counseling,
 - economic diversification, and
 - local participation;
- The Slavutych Employment Center and Transition Center;
- A business development agency;
- A business incubator;
- A training center and computer laboratory;
- A micro-finance bank;
- The International Chernobyl Center which houses
 - The International Radioecology Laboratory and
 - Laboratory of International Research and Technology;
- The Ukraine Offsite Emergency Training Center;

- A fiber optics communications link;
- The Slavutych Energy Efficiency Program;
- The Slavutych – Richland Community Partnership Program;
- Humanitarian assistance; and
- Health programs including
 - The Chernobyl Childhood Illness Program and
 - The Children of Chernobyl Relief Fund

U.S. Nuclear Safety Assistance

The United States has been actively engaged in implementing numerous nuclear safety, waste management, and social economic mitigation projects at Chernobyl and in Slavutych. Working in coordination with other donors, the U.S. provided assistance for safety improvements and construction of the waste management facilities. The United States has been a major donor to the Shelter Implementation Project to re-construct the sarcophagus that covers the ruined reactor unit 4 at Chernobyl. U.S. pledged to the Chernobyl “Shelter Implementation Plan” \$203 million, out of a total of \$1 billion pledged to date by G-8, European Union, and other donor countries. The Department of State has thus far provided over \$120 million of FREEDOM Support Act funds against this pledge.

In addition, United States through the Nuclear Safety Account of the European Bank for Reconstruction and Development is also contributing towards the construction of Interim Spent Fuel Storage and Liquid Radioactive Waste Processing facilities at the Chernobyl industrial site.

Safety Improvements: Since 1992, United States Department of Energy has been providing safety improvement assistance to Soviet-designed nuclear power plants in Ukraine. DOE’s National Nuclear Security Administration has implemented specific equipment and technical assistance projects at Chernobyl.

Chernobyl Closure Support: To support Chernobyl closure, DOE provided equipment to improve worker safety projects at the shelter, supported the development of specific project plans related to stabilization and long-term reconstruction of the Chernobyl Shelter, developed plans for the decommissioning of Chernobyl Units 1-3 including comprehensive engineering and radiation surveys, and provided \$32.5 million for construction and commissioning of the Chernobyl replacement plant.

U.S. Social/Economic Assistance

Specific U.S. bilateral projects to mitigate the social and economic impact of the Chernobyl closure on city of Slavutych include:

- **Establishment of the International Chernobyl Center:** The United States and Ukraine jointly established the International Chernobyl Center for Nuclear Safety, Radioactive Waste Management, and Radioecology in 1996. The main goal for the

Center is to become a national and international resource for scientific and engineering research on nuclear safety, environmental remediation, and radioecology. Although the Center is primarily engaged in nuclear safety activities, it also helps the city of Slavutych mitigate the social and economic impacts of Chornobyl closure both directly by employing Chornobyl workers and indirectly by training people in English and in Western business practices. The Center also helps establish an attractive business environment in Slavutych for technical companies. The Center's labs employ about 65 full-time personnel and have additionally employed up to 100 Chornobyl nuclear power plant workers as contractors for specific projects.

- **Establishment of an Off-Site Training and Crisis Center:** The United States equipped and established a training center for Ukraine's nuclear emergency preparedness personnel.
- **The Slavutych – Richland Community Partnership:** USAID is supporting a community partnership program between Slavutych and Richland, Washington. The program develops the capacity of local government and promotes citizen involvement in communal service reform to meet community needs.
- **A Worker Assistance Initiative:** United States Department of Labor (DOL) worked very closely with the city of Slavutych and Chornobyl Nuclear Power Plant to provide: 1) employment transition services; 2) economic development guidance and funding for economic renewal; and 3) business consulting to restructuring enterprises.
- **A Small Business Incubator:** USAID through Loyola College, Baltimore established the Slavutych Business Incubator to foster business skills development and generate employment by providing assistance to new and existing small and medium enterprises.
- **A Micro-Credit Facility:** The United States and its international partners facilitated the establishment of a Micro Credit Finance Bank for Slavutych in June 2001. The facility has provided loans to assist small-to-medium business enterprises in expanding their operations and has also facilitated start up of numerous small businesses.
- **A Chornobyl – Hanford Visit:** U.S. Department of Energy facilitated discussions of the Chornobyl management with the Department of Energy's Hanford Site to determine similarities between the two sites for work force restructuring and potential economic development for the city of Slavutych.

U.S. Health Assistance for Chornobyl Victims:

To assist Chornobyl victims, we have supported programs in the health sector.

- **USAID's Breast Cancer Assistance Program (\$3.2 million, 1997-2001)** established modern screening and treatment approaches. Community involvement and NGOs also supported breast cancer public awareness campaigns and breast cancer patients. Today these NGOs are still actively involved in awareness and fundraising. For example, in 2004 public and private sector fundraising resulted in the purchase of two new mammography machines for hospitals in Ukraine.
- **The Chernobyl Childhood Illness Program (\$4 million, 1998-2002)** supports programs to screen and treat childhood mental and physical illnesses related to Chernobyl radiation. USAID opened five U.S.-Ukraine medical centers that are screening adolescents for thyroid tumors and psychosocial illnesses.
- **HHS National Institutes of Health Screening:** The National Cancer Institute has been screening children (now adults) who were exposed to the radiation. Screening focuses on thyroid, leukemia and lymphoma. The National Institute of Mental Health conducts research on mental health consequences of Chernobyl.
- **A UN Chernobyl Grant, United Nations Office for Coordination of Humanitarian Affairs (\$1 million 1998-2002):** Our contribution to a UN grant managed by the Office for the Coordination of Humanitarian Affairs (OCHA) has supported three activities in Ukraine: 1) social-psychological rehabilitation centers in the Kiev and Zhytomir Regions, 2) a portion of the World Health Organization's International Programme on the Health Effects of the Chernobyl Accident (IPHECA), and 3) a feasibility study on dike construction at Chernobyl for the protection of rivers and water reservoirs.
- **Birth Defects Surveillance and Prevention Program (\$3.7 million 1998-2005)** USAID/Kyiv has provided the University of South Alabama \$3.7 million following Congressional directives to support a program to register and reduce environmentally related birth defects in the Chernobyl areas. However, the registries did not find any linkages between exposure to Chernobyl and birth defects.

U.S. Humanitarian Assistance Program

From 1992-2002, the Department of State coordinated 50 humanitarian shipments in conjunction with the "Children of Chernobyl Relief and Development Fund" (CCRDF). These shipments provided humanitarian commodities, including pharmaceuticals, medical supplies, and medical equipment valued in excess of \$52 million for victims of Chernobyl. This assistance went to 18 partnership Ukrainian medical facilities to support programs treating children suffering from the effects of the Chernobyl accident and to provide medical assistance to six orphanages for disabled children. All humanitarian commodities were provided or sourced by CCRDF.

The **Humanitarian Programs Office of the State Department's Coordinator for Assistance to Europe and Eurasia**, through its **Operation Provide Hope**, has since 1992 delivered a total of over \$587 million in donated humanitarian assistance to Ukraine

and over \$235 million to Belarus. Much of this assistance was Chernobyl-related. This month we are making two deliveries of a total of more than \$7 million to Ukraine and Belarus in commemoration of the 20th Anniversary of the Chernobyl disaster. On April 20, an air shipment of medicines and medical supplies was delivered to Ukraine, and on April 28, we hope to deliver similar assistance to the people of Belarus. U.S. PVO's CCRDF, Heart to Heart International, and CitiHope International collaborated with the Coordinator's Office to provide the donated assistance.